NewsRelease

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RESEARCH TEAM TO LOOK FOR TURBULENCE

Fasten your seat belt. It's going to be a bumpy ride.

Most flyers prefer to avoid turbulence, but not a team of government and industry researchers. They'll be flying around thunderstorms over northeastern Colorado in June, looking for as many bumpy patches as they can find.

Three aircraft, two from private industry and one from an educational institution, are expected to take to the skies almost daily from June 2-18 in search of the turbulent activity associated with storms. Radar on board the planes and on the ground will collect atmospheric data to gain a better understanding of turbulence and determine if airborne Doppler radar can reliably detect it.

Turbulence is the leading cause of injuries on airliners. U.S. airlines figure it costs them at least $100 million a year in disrupted operations.

The NASA Aviation Safety Program is leading a multi-year effort to design a turbulence hazard scale, create on-board detection and warning systems, improve turbulence forecasting and develop methods to minimize turbulence effects. The partnership includes government, industry and academia.

NASA will team with the National Center for Atmospheric Research (NCAR), AlliedSignal Aerospace, Rockwell Collins, Colorado State University, the National Science Foundation and the South Dakota School of Mines and Technology for the Colorado turbulence research mission.

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Planes owned by two airborne weather radar manufacturers, AlliedSignal and Rockwell Collins, and the South Dakota School of Mines and Technology will take readings from the air at cruise altitudes. A South Dakota School of Mines pilot will fly an armored T-28 trainer into stormy weather between Fort Collins, Colorado and Cheyenne, Wyoming to collect data. AlliedSignal will use a company Convair 580 and Rockwell-Collins will fly a company-owned Sabreliner, both equipped with modern Doppler radar, to follow the T-28 near the thunderstorms. Atmospheric information also will be gathered from weather balloons.

On the ground, National Science Foundation summer students and researchers from Colorado State University will take data from two Doppler radars, one system near Greeley and the other near the Pawnee National Grassland. NCAR researchers will collect and analyze all the information and help develop a turbulence detection algorithm for airborne weather radar.

One goal of this research is to adapt radar already on board airliners to detect storm related turbulence. Manufacturers hope to have some of the updated technology available for commercial use within the next year.

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Note to Media: There are a limited number of seats available on board one of the planes for reporters and photographers. They will be assigned on a first come, first serve basis. Aircraft will leave from the Fort Collins-Loveland Airport on short notice, depending on the weather.